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Voices of Quiet Students: Introverted Nursing Students' Perceptions of Educational Experiences and Leadership Preparation

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Abstract:

The nursing profession needs leaders from across the temperament continuum. Educational environments are conducive to extroverts' learning but can have detrimental outcomes for introverted students. Introverted nurses avoid leadership positions because they have been taught extroversion traits are needed. This study explores perceptions of seven RN-BSN students who work as nurses and self-identify as introverts. Interviews with participants were conducted to ascertain perceptions of their educational experiences including preparation for leadership positions. Four themes emerged as: (1) stop making me sick, and I will appreciate learning, (2) respect my silence, and I will eventually speak, (3) recognize my strengths, and I will grow in confidence as a leader, and (4) adapt the environment, and I will learn more. Implications for nurse educators include being mindful to avoid bias and reduce stigma, considering changes to teaching approaches to create equitable learning spaces, and respecting silence in the classroom.

Keywords: introvert, leadership, temperament, qualitative

The profession of nursing frequently suffers from a shortage, particularly in the area of influential leaders and educators (American Association of Colleges of Nursing, 2017; American Nurses Association, 2018; National League for Nursing, 2017). These shortages are predicted to intensify in the next decade as the retirement of the last of the baby boom generation is realized (AACN, 2017; ANA, 2018, NLN, 2017). The multifarious expectations placed on healthcare leaders requires those individuals to be well suited to the demands of the role and to possess germane skills to guide interdisciplinary quality and safety improvement projects. Despite the awareness of this looming challenge in the already complex healthcare system, there have been relatively inconsequential changes to the preparation of nurses for the professional demands of the discipline. A concern that may deceptively appear negligible is that of student temperaments.

Research has demonstrated that the number of introverts and extroverts is comparable across populations (Helgoe, 2013). Both temperaments have unique and beneficial characteristics that are crucial to successful leadership within organizations. A definition of introverts proffered by Cain (2013) is "people who prefer quieter, more minimally stimulating environments". Conversely, Cain notes that "extroverts feel at their best and crave a high degree of stimulation". While solitude increases an introvert's energy, an extrovert gains energy by being around others. There have been many extraordinary introverts throughout history who have made incredible contributions and earned respect for their reticence and reflective natures. These include individuals such as Thoreau, Edison, Einstein, Eleanor Roosevelt, Neil Armstrong, and more recently Bill Gates.

However, within the last 100 years, there has been a significant shift in the portrayal and perception of introversion. As recently as 2012, the American Psychiatric Association considered making introversion a diagnosis within the DSM-V. Mass protests made the organization rethink this ill-considered position (Allen, 2015), but it does speak to a level of absurdity that has attached itself to a temperament trait, and conversely the level of regard associated with extroversion. Pannapacker (2012) asserts that educational institutions tend to screen out introverts, particularly in graduate programs. The profession of nursing needs a diverse cadre of leaders from across the temperament continuum to collaborate and manage the complex issues in healthcare effectively. Introverts and extroverts working together can achieve remarkable results (Kahnweiler, 2015).

The recent publication of groundbreaking works such as Cain's (2013) *Quiet: The Power of Introverts in a World that Can't Stop Talking*, and Helgoe's (2013) *Introvert Power: Why Your Inner Life is Your Hidden Strength*, have illuminated this issue throughout Western culture and brought significant attention to this topic in the academic realm. Many introverts carry a lifelong frustration with educational environments and approaches and can

readily recall incidences of being told to fundamentally change to fit with the dominant societal standard at a given point in history. In this era of greater awareness of human diversity, it is essential that nurse educators make equitable education a priority to promote higher-level thinking and produce competent, confident leaders.

Literature review

Education of introverts

While there is a dearth of literature on the topic of education of nursing students who are introverted, there are a few articles in the last several decades that address the topic. These articles focus on the need for adaptation of educational approaches to better support introverted students and optimize learning (Li, Chen, & Tsai, 2008; Schmeck & Lockhart, 1983; Sorrell & Brown, 1995). A limited number of studies in other disciplines have explored facets of the introversion topic and provided suggestions for further research.

Manageable adaptations in teaching approaches have the potential to improve learning for both extroverts and introverts (Davidson, Gillies, & Pelletier, 2015). There can be bias in evaluation tools that favor extroversion, with valued behaviors often identified as initiating discussions, taking the lead during groups, and participating in an activity. Recognition for beneficial behaviors of introversion such as thinking before speaking, synthesizing information, and listening before engaging, could reduce bias that can falsely inflate or deflate grades (Davidson, Gillies, & Pelletier, 2015). It is possible to identify these behaviors by being cognizant of students who pause before raising their hands and whose responses are more fully developed.

Introverted students thrive on listening; yet, often educators assume students who are not speaking or raising their hand to be less intelligent and uninterested in learning (Condon & Ruth-Sahd, 2013). These perceptions are unfortunate given that active listening with inward reflection is essential to deep learning (Doyle, 2013). Efforts to prepare students for the *real world* by forcing introverts to participate can be detrimental to students' self-perceptions and future career directions, but there are ways to broaden what constitutes participation to include written reflections either in an online venue or as part of a class activity (Condon & Ruth-Sahd, 2013).

Qualities for successful leadership

The literature from the last two decades shares a plethora of research that speaks to the essential qualities of nurse leaders (Cummings et al., 2008; Upenieks, 2003; Wieck, Prydun, & Walsh, 2002; Wood-Allen, 1998). These sources identify desirable attributes of leadership as being an *extrovert* and *people-oriented* (Cummings et al., 2008), possessing "innate leadership qualities" described as being *bossy* and *a joiner* (Wood-Allen, 1998, p. 16), and being a *good communicator* and having *good people skills* (Upenieks, 2003; Wieck, Prydun, & Walsh, 2002). Interestingly, in the last decade, there has been a shift in the discussions regarding leadership qualities deemed most valuable. Kuofie, Stephens-Craig, and Dool (2015) acknowledge that introverts possess leadership skills such as active listening, attention to detail, and reflective thinking, but that they may need to compensate for areas such as public speaking and communication skills. Jooste and Cairns (2014) identify self-awareness and emotional self-management as necessary leadership skills to regulate impulsive behaviors; impulsivity has been associated with extroversion, indicating that more reflective traits associated with introversion could be beneficial in leadership positions. Introverted leaders are often more receptive to proactive employees and their suggestions (Grant, Gino, & Hofmann, 2011). Farrell (2017) recognized introverts' strong analytical skills as necessary for the resolution of complex issues. These are necessary traits in the current healthcare environment; yet, educators often fail to employ teaching strategies that recognize or promote the use of these strengths.

There is a paucity of research that shares students' perceptions of how their educational experiences have impacted their learning and subsequent leadership opportunities. The purpose of this study was to understand better the educational experiences of nursing students who self-identify as introverts, and how those experiences shaped their preparation for future leadership positions.

Methods

The University institutional review board approved this hermeneutic phenomenological qualitative study. The theoretical framework for this study was based on Heidegger's philosophical tenets. Heidegger's concepts

served as harbingers for development of interpretive or hermeneutic research methods which allow for illumination and understanding of humans' lived experiences (Horrigan-Kelly, Millar, & Dowling, 2016). Heidegger rejected the commonly held idea that personal opinion or interpretation should be avoided in research (Kafle, 2011) and instead viewed interpretation as necessary to revealing the subjective experiences of participants. Heidegger believed that humans and the world they live in cannot be separated, and that by interpreting the emic perceptions of ordinary human existence, deeper meanings can be revealed (Horrigan-Kelly, Millar, & Dowling, 2016).

The research questions this study intended to inform were: (a) How do RN-BSN students who identify as introverts perceive their preparedness for leadership positions in the profession?, (b) What are the educational experiences of RN-BSN students who identify as introverts?, and (c) What educational experiences and approaches do RN-BSN students who identify as introverts perceive as most beneficial?

An email sent to 378 students in an online RN-BSN program asked for their participation in the study. This group of students was deemed most suited for this study as they were current students already licensed as nurses, allowing them to speak to both past and current educational practices, as well as work experiences post-licensure. The researcher did not teach in the RN-BSN program, and students had received their ADN degree from other institutions, so the researcher had no connection with any of the participants. The researcher shared the purpose of the study and included a brief true-false quiz taken from Cain's (2013) book to help students self-identify their place on the introversion-extroversion continuum. The quiz was only intended to help students self-identify and was not part of the study data. Purposive criterion-based sampling was used to ensure participants were RN-BSN students who self-identified as introverts and could provide insight into the topic of interest. The researcher offered an incentive of a bookstore gift card to each participant. Despite the incentive, only 10 out of 378 students initially volunteered to participate. Based on the research indicating that half of the population may be introverted (Helgoe, 2013), potentially 150 to 200 students could have volunteered for the study. The small number of interested participants could be indicative of the sometimes quiet and reticent nature of introverted students.

While ten students initially expressed interest in being part of the study, this number later dropped to seven who ultimately completed the interview process. Three students did not follow up on subsequent email communications and offered no explanation as to why they were no longer interested in participating in the study. Students received a clear overview of the research at the time they expressed interest in being a participant to make an informed consent. Participants shared basic demographic information that included age, race, primary and secondary schools attended, the number of tertiary schools attended, and the number of degrees obtained. Participants then participated in a 45–60-minute interview that asked broad and probing questions related to their past and present educational experiences as an introverted student. Interviews took place in a private online meeting room that allowed video and audio communication. Interviews were recorded within the meeting room as well as by an audio recorder and transcribed by the researcher. While student names were known to the researcher, pseudonyms assigned to each participant preserved anonymity beyond the researcher. Interview questions were developed based on the topic of interest and areas that would inform the research questions.

An iterative approach using constant comparison was employed to determine codes and identify themes. Horizontalization was used with consideration to the textual and structural analysis of significant statements which allowed themes to emerge from the data (Moustakas, 1994). Textual analysis intends to *describe what* participants express, while structural analysis intends to *interpret how* participants express experiences (Padilla-Diaz, 2015). Quirkos 1.5.2© qualitative software analysis program was also used to triangulate analysis to improve the trustworthiness of study findings. While the sample size was small, data saturation was apparent with no new themes emerging from final interviews, and the essence of the phenomenon established.

Findings

Demographics

All participants identified as female and their ages ranged from the 20 s to the 50 s. Two identified as Hispanic and five as Caucasian. All were public schooled at some point in their primary and secondary education, with one who was also educated at home for one year and attended a private school for several years. All had attended between two and five tertiary educational institutions and had earned one or more previous degrees. One student resided in another state. All had obtained their Associate Degree in Nursing from an institution other than that of the researcher.

Themes

Four dominant themes emerged from the data analysis. These themes were repetitive and consistent among the participants and surfaced in various ways during the interview. The structural component of data analysis led to the designation of themes through interpretation of the tacit and unified voices of the participants.

Stop making me sick and I will appreciate learning. All participants spoke to various symptoms they experienced associated with the learning environment and teaching approaches used in classrooms. The words *anxiety, uncomfortable*, and *nervous* were frequently used to describe feelings associated with the classroom experience. Participants spoke to past experiences at all levels of their educational experiences and memories were vividly described. Angela noted:

> I had a math teacher which was my worst subject ever. I was so bad at it and he made me go to the front of the room and in front of the whole class solve an algebra problem that I couldn't solve and instead of supporting me he just stood there and stared at me until I basically got so red and uncomfortable that he knew I couldn't do it. I still think about that now.

Erica shared her experience with nursing instructors who called on students randomly:

> I'd sit toward the back and if I wasn't called on I was like thank you; I made it through a class.... I'd get nervous because they have a hard time hearing me; I had one teacher who felt like called on me on purpose and whenever I would talk I felt like I was yelling and she'd say I can't hear you and I remember thinking "please don't call on me today". It would make me frustrated.

Gina supported the concerns with randomized calling:

> It definitely didn't make me feel comfortable or confident in my abilities so that was a very long semester for me. My body temperature definitely increased; it was just very anxiety provoking for me. It was just like ugh; then I would leave and feel like why didn't you just talk louder and just say what you thought? During class ... my heart was just pounding, and I was just very hot and flushed and flustered.

Holly described the challenges encountered with high-fidelity simulations and the faculty member's response to a student's concern about being videotaped.

> This was my fundamentals instructor; she's a very extroverted person....and she said, "oh, you shouldn't be uncomfortable. It wouldn't make me uncomfortable". And I just thought that was very rude. Not sensitive at all. I thought my heart was going to explode.

The essence of this theme is that participants perceived impaired learning due to the physical symptoms they were feeling during class sessions and that these symptoms seemingly went unrecognized by the instructors or were minimized. Participants appreciated the importance of the material presented, but the approaches and associated interactions used by instructors diminished their ability to learn optimally.

Respect my silence and I will eventually speak. Participants shared many examples of instructors who seemed to want to change their inherent temperament by forcing them into uncomfortable situations. While participants at times noted that the instructor might have been trying to help, they felt the approaches used were ineffective and reduced rather than enhanced their confidence levels. However, participants who perceived respect from their instructor and were allowed to engage or interact on *their* terms were able to gain confidence over time and be more active in the class or clinical settings. Participants spoke to their need for learning environments that offered opportunities for quiet, non-stimulating reflective time.

Barb reflected on the value of educational experiences during which educators used silence to facilitate the discussion:

> I think that silence is valuable ... I find that when given the opportunity in a classroom setting to reflect and to actually have a second to think, like when somebody says, think about a time when, or tell me about a time that this happened. Giving me enough time to think about it and process it and come up with what I want to say is very valuable ... just stop and let us reflect instead of filling the space with noise.

Casey shared her accrued perceptions from educational experiences throughout her life:

> I don't think I ever necessarily saw myself in a leadership role because I was the person who was quiet; whereas, the outgoing people, the extroverted people, they were always engaging people in conversations ... So I think sometimes I associated extroversion with success because those people were popular.

I don't necessarily think my educational experiences deterred me from becoming a leader or wanting to, but I don't think it lended itself as much as it did to the extroverted students ... I just think it's important for teachers and educators to individualize based on the student and not necessarily....society's standards. If students don't feel comfortable with something....how can teachers approach that differently?

Erica shared an incident during a clinical rotation:

During our evaluations [my instructor] made a comment about how small my voice was and how she wanted me to get on the intercom and basically say something to have people come and when she said that my heart just started racing and I said I don't want to do that. And that continued to be mentioned throughout most of my clinicals.

Erica went on to share classroom experiences:

I think as more of an introverted person, some people or other students would take it as I didn't want to contribute in the class setting or that I didn't really have any ideas, when in fact I would have ideas; I just didn't want to share or I didn't think it was a good enough idea to share. I'd have to really be confident in the idea I had and hope that no one was just shouting answers ... Give the student time to warm up or come out of their shell ... If you notice someone isn't participating as much in a class, not to draw attention to them in the classroom, but to send an email [asking] if they have any ideas or if they want to meet after class.

Recognize my strengths and I will grow as a leader. Participants shared incidences where the instructor voiced concerns about their abilities to be successful in nursing due to their quiet natures:

[My instructor told me] if I can't make my voice assertive that no one would take me seriously and I wouldn't essentially be able to get anything done when communicating with doctors or other healthcare people. And I remember thinking, I can still talk. I'm still able to communicate. I felt maybe that not focusing so much on it or bringing so much negativity about it.... I know you have to know what you are lacking to grow, but also a little more emphasis on what you did excel in ... listening to your patients or the care that you provided. (Erica)

Holly shared a clinical experience:

This clinical instructor told me that she thought I was going to fail as a nurse ... I'm just thinking well no, I haven't done this enough ... how could I possibly be proficient at it? She was the worst by far, but there were lots of nurses that ate their young that I had to deal with it really makes me want to shy away from any leadership roles.

Barb reflected on the lack of recognition quiet students receive from instructors:

The people who tend to be very outgoing and very personable, they always seemed like in my mind they were being recognized more. Maybe from an educator perspective looking at those very quiet students who are not contributing as much to conversations or who are not openly giving a lot of information in class or whatever. Maybe looking at some of the other communication ways, like through writing. If they're providing you with exceptional writing ... that really blows you away and you didn't realize they were....capable of that thought process. Recognition ... is like so powerful when you're not overtly loud and out there for everybody. I think to me that would be a personal conversation.... I saw your interaction with your patient ... if you acknowledge and recognize that, it would be pretty impactful I think.

A noteworthy aspect of this theme was that while participants did not perceive educators who acknowledged their strengths, they did identify *extroverted* leaders in the workplace who recognized their strengths and served as unofficial mentors to help them grow as leaders in the profession. Participants, comments demonstrated an appreciation at being singled out by employers for their abilities.

Barb, who had recently assumed a leadership position in nursing, went on to describe the culture of her workplace:

Even though someone might be very quiet and introverted if you see they are a good leader you just invest in them to bring that out and I think that's what they [employer] did for me to get me comfortable with speaking up and speaking out in front of others ... Not until my job where I was a case manager and my director....identified it [leadership potential] and said I think you can do this and I said 'What?

… It did feel obviously nice to be recognized but it validated that I was also working really hard and let me know she valued me as an employee to like not only recognize this ability in me but then to say "I'm gonna work with you to help develop you" … I ended up choosing my path … because I felt almost a little indebted to her because she recognized that in me but also appreciative that she saw in me what I didn't see in me years ago. She was an extreme extrovert. She was probably absolute opposite of me in every way shape and form.

Danielle, who works in a leadership role as a supervisor of over 80 direct report employees, noted that it was her director who recognized and encouraged her potential.

I know that my director has the confidence that I can do it and that helps build the self-esteem too. But again, like she has said multiple times you're just quiet, but you get the work done … She's probably an 8 or a 9 as an extrovert, she's very outgoing; *very* outgoing.

Casey also noted that her director acted as a mentor for her leadership growth.

I had the director of nursing as a mentor to me; she was very encouraging to me as I changed roles … she recognized that we would work well together and make some positive changes. She was definitely more toward the extrovert side of the scale.

While Casey and Barb have has been practicing for over ten years, Danielle is nearing the end of her nursing career, which limits the years she will be able to practice as a leader. The number of years spent in practice is significant since recognition of leadership potential often seems arbitrary and dependent on propitious circumstances of having a perceptive person in a position of leadership who can mentor the more introverted nurse.

This theme underscored the need for faculty members to provide students recognition for strengths, and to avoid focusing on their quiet natures as a deterrent to work as a nurse. Respecting the students' inherent temperaments and providing positive feedback for things done well, may ultimately help the student gain confidence to engage in discussions or other activities. Recognizing the need to mentor and encourage both introverts and extroverts during their nursing education seems critical.

Adapt the environment and I will learn more. One participant's statement broadly addressed this theme:

I just hope that eventually instructors will be aware that not all nurses are extroverts, because the majority of my classes were geared toward extroverts.…there was a big difference between the classes that were led by an introvert versus the others. I don't think it would take that much to shift it so that introverts could be comfortable or somewhat comfortable and content in all the classes. (Holly)

Participants offered numerous exemplars of situations that detracted from their learning, as well as ways that enriched their learning. The approaches noted by students as detracting from learning are common in educational environments, including nursing programs. Three examples of negative approaches shared by nearly all participants were presentations, group work, and random calling on students. Participants identified classroom distractions as being an environmental issue that deterred learning and spoke to the need for individualized and independent learning with interaction opportunities that created stronger connections with the instructor.

Barb elaborated on her experience with being unable to answer a question in front of the class during her high school education.

[I felt] embarrassment and what's the word? Feeling very isolated and unsupported … very unsupported, very uncomfortable, and obviously embarrassed because I didn't know the answer; … I would say it left me with the feeling of probably insecurity in my skills going forward; never really feeling confident in those skills because I had been in that situation where I was very uncomfortable and almost froze.

Angela noted:

Any presentation at the front of the classroom, I've always hated those….. I guess I always appreciate teachers that don't call on you for answers when you're not volunteering an answer … I've never liked group work for the traditional reasons … We spent more time trying to get people to communicate instead of just getting the project done. I don't even remember what the project was about, so I don't feel like I learned anything.

Other participants focused on the size of the groups:

> Group work can be very difficult if maybe the groups are too large so like instead of making it a functional working group it ends up becoming dysfunctional because there's too many people and too many opinions and too much noise going on to be able to focus on the topic at hand. If ... you're with a lot of loud opinionated people, as an introvert you're not going to speak up typically; you're not going to advocate for yourself or for whatever the idea you have ... you're going to sit back and let the other people take over control ... those extroverted gregarious ones, in my experience. (Barb)

> I definitely like the smaller groups because I feel more comfortable communicating back and forth. If I'm in a group of just one or two other people it's a lot better than a group of four or five ... I'm not into drama. I don't like the emotional aspects that go with larger groups. (Danielle)

Another participant spoke to challenges associated with group work:

> [I liked] the classrooms that we didn't have a lot of group work; not that I don't like human interaction, but it was almost forced sometimes ... If teachers want to have introverts exercise their leadership capabilities it can't just be like bam you're the leader. I think there's leading up to that. (Casey)

Participants spoke to valuing instructors who effectively managed the classroom and who encouraged the use of office hours to address questions that introverted students may not ask in the classroom setting. They also appreciated instructors who made an effort to learn the names of the quieter students.

> A stronger relationship with the student helps; so knowing my name, because I'm not going to be talkative so you might not know my name versus the one [student] who is very talkative ... I guess a strong hold on the management of the classroom is important to me. If I'm in a room and there are distractions in the room and they're not being managed appropriately that's just very frustrating and difficult. (Barb)

Discussion and recommendations

Findings suggest that introverted nursing students can experience significant emotional and physical discomfort during their educational experiences. While a small level of stress can accentuate learning in the short term (Vogel & Schwabe, 2016), descriptions provided by participants extended beyond low-level anxiety. If wanting to mitigate student discomfort is not sufficient motivation to challenge thinking related to teaching strategies, neuroscience research supports that high levels of short-term stress can interfere with the ability to recall information in the long-term (Doyle, 2013; Vogel & Schwabe, 2016). Studies have also demonstrated that anxiety can lower students' confidence levels, critical thinking skills, attention to tasks, and thinking processes (Melincavage, 2011; Villeneuve, Heale, Rietze, & Carter, 2018; Wedgeworth, 2016). As healthcare professionals, nurse educators should be cognizant of and empathetic to physiological reactions that occur in response to stress and how this reaction affects memory and learning. The noted studies imply that use of teaching approaches that generate anxiety and fear can diminish learning and affect nursing students' ability to retain needed information for success on licensure exams as well as for future practice roles.

Participants' responses suggested a salient need to have their silence respected and indicated an adverse effect on their self-confidence from situations that caused them anxiety or embarrassment. Conversely, when participants could contribute in comfortable ways or could acclimate to the classroom or group, they were able to engage more easily. Research supports that *fear of being wrong* is a principal factor for not speaking up in class (Brinsfield, 2013; Kirrone, O'Shea, Buckley, Grazi, & Prout, 2017). Conversely, discussion with involvement from introverts is necessary for balanced interactions that promote learning. Study findings imply that educators must consider ways to promote voluntary participation from introverts while avoiding uncomfortable learning environments.

Zimmermann and Morgan (2016) contend that forcing speech without reflection can be detrimental to establishing deeper meanings and assert that silence is supportive of authentic dialogue that enhances learning. Silence can be a form of active learning when used as a tool for reflection (Ulus & Aben, 2015). Studies have demonstrated significant brain cell growth associated with periods of silence, suggesting that educational programs or work environments that have consistent and sustained noise could be inadvertently detrimental to learning (Kirste et al., 2013).

Potential implications for classroom environments include building in periods of silence, avoiding random calling or forcing students into responding, valuing other forms of participation such as active listening, and infusing other means of demonstrating knowledge such as written reflections or use of clicker systems. A 2014 Gallup Poll indicated that college students perceived successful college experiences as most affected by a professor who cared about them as people and who made them excited about learning. A significant inference is

that respecting students' temperaments and avoiding a classroom environment of anxiety will foster positive perceptions of education and optimize learning experiences.

Participants noted that because they were quiet students, instructors often focused on this as a perceived weakness, but failed to acknowledge their innate strengths. Research has established that positive recognition leads to improved outcomes in education, particularly when it is deserved and individualized (Doyle, 2013; Gallup Inc., 2014). Providing feedback that recognizes students' thoughtful responses, active listening skills, or empathetic patient interactions during clinical rotations, can result in greater confidence leading to more active engagement. Participants noted that criticisms were often focused on temperament traits such as being too quiet, not raising hands, or not contributing to discussions. Hardavella, Aamli-Gaagnat, Saad, Rousalova, and Sreter (2017) disputes this approach and suggests that feedback should be constructive support and focus on the task rather than the person. Participants in this study described extroverted leaders in their workplaces who became unofficial mentors to them by recognizing their leadership skills and helping them to develop these talents further. Rather than relying on the fortuitous circumstance of having emergent skills noticed by employers, educators should be proactive in advancing the confidence and strengths of introverted students to bolster and diversify the pool of future nurse leaders.

Adapting the learning environment with consideration to temperament traits can lead to improved learning and potentially better relationships with students. Pepe and Wang (2012) found that students who perceived the professor as being respectful and caring, and a strong communicator, gave higher scores in all areas of course and instructor evaluation tools. Students appreciate educators who thoughtfully restructure the learning environment and see them as being empathetic toward different temperaments and respectful of student individualism (Cain, 2013; Pepe & Wang, 2012). Adaptations that improve outcomes include smaller group sizes of two to three students (Cain, 2013; Henningsen & Miller-Henningsen, 2013) and providing options to students (Weiser, Blau, & Eshet-Alkalai, 2018). For example, students could be provided a choice of sharing group findings in a written or verbal format, or the option of participating in a role-play or creating a related concept map on a whiteboard.

Other adaptations include encouraging alternative discussion responses such as an online board or use of technology in the classroom (Dong, Hwang, Shadiev, & Chen, 2017 Lamon, 2017), sharing questions in advance of the course session to allow reticent students an opportunity to consider their responses, and including quiet periods during the class session to reflect (Condon & Ruth-Sahd, 2013). Asking students to reflect for two to three minutes before responding to a posed question will garner more thoughtful responses from potentially more students. These approaches can also help educators recognize those students who may be unprepared versus those who are introverted. Introverted students who have been allowed to reflect on a question or case study will be much more likely to engage in the discussion; an unprepared student may not. At the same time, it is important to avoid assuming students to be unprepared, bored, or disinterested. Introverted students who have experienced uncomfortable learning environments in the past may adopt behaviors that they believe will help them avoid being called on or noticed. As one participant noted:

> I would sit in the back hoping that no one would really notice who I was since there were so many students. I kind of thought out in my head what I would say if I was called or if they asked me a question, but it always just made me nervous and I'd avoid eye contact and pretend like I was writing notes. (Erica)

Perhaps most importantly, it is critical that educators reduce the stigma associated with introversion by recognizing and embracing the strengths associated with the temperament (Cain, 2013; Helgoe, 2013). Educators should refrain from labeling introverts with inaccurate terms such as *shy, antisocial, loner*, or *fearful*; instead, they should use terms that reflect and recognize the advantages of introversion such as *calm, reflective, good listeners*, and *detail oriented* (Cain, 2013; Sherman, 2013). Reducing stigmas and recognizing positive traits may promote greater self-confidence and participation from introverted students.

Instituting changes to teaching approaches should not be onerous for nurse educators or add undue time demands to already full schedules. Many recommendations only require replacing or restructuring previous teaching approaches. Providing advance notice of discussion topics or group assignments can actually reduce time spent in brainstorm sessions during the class. Efforts such as simple greetings to students and being open and approachable require little time but can result in improved learning and persistence toward degree completion (Kezar & Maxey, 2014). Offering the option of meeting during office hours or communicating via email for questions is perceived as supportive by introverts and extroverts alike and can significantly enhance students' educational experiences (Kezar & Maxey, 2014). A study by Clark (2014) revealed that students experienced high levels of stress during nursing programs and identified engagement in faculty-student activities as a strategy to reduce this stress. Educators who encourage supportive interaction outside of the classroom can increase introverted students' perceptions of their own value and instill confidence that promotes classroom engagement (Kezar & Maxey, 2014).

Future research is needed that focuses on student learning outcomes associated with changes to teaching strategies. Additionally, longitudinal comparative studies are needed that determine the leadership roles

assumed by introverted students who experienced supportive educational environments versus introverted students who did not. More extensive studies that examine specific teaching approaches and their effect on student engagement and learning would also be beneficial.

Summary

Nurse educators must be astute and introspective when considering teaching strategies designed to prepare students to be effective leaders in the profession. The literature on this topic as it relates to nursing students is limited. However, it is notable that despite an escalation in interest related to temperament differences and learning environments, the current educational climate continues to celebrate and cater to extroverted individuals. Introverts possess vital traits that are needed by healthcare leaders to address complex issues facing the profession. Recognizing and supporting these strengths throughout students' education will instill confidence in their abilities and inspire their pursuit of leadership positions.

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